

REMARKS

Pursuant to a Request for Continued Examination (RCE) filed herewith, and responsive to the Final Office Action mailed March 15, 2002, Applicants respectfully request reconsideration. To further the prosecution of this application, Applicants have addressed each of the issues raised in the Final Office Action as discussed below in the following remarks.

Claims 2-57 presently are pending in this application, of which claims 2, 4, 5, 11, 13, 15, 16, 17, 18, 21, 38, 39, 56, and 57 are independent claims. In this response, claims 4-9, 11, and 16 have been amended, and claims 21-57 have been added to further define Applicants' contribution to the art. The application as now presented is believed to be in allowable condition.

A. Allowed/Allowable Claims

Applicants note with appreciation that on page 3 of the Final Office Action, claims 15 and 17-20 are allowed. Additionally, claims 4, 5, 7, 11, 12, and 14 are indicated as reciting allowable subject matter, and would be allowable if rewritten in independent form to include all of the limitations of their respective base claims and any intervening claims. Accordingly, Applicants have rewritten claims 4, 5, and 11 in independent form, as suggested in the Office Action, to accept the subject matter deemed allowable by the Examiner.

Claims 6-9, as amended herein, depend from newly presented independent claim 11, and are believed to be allowable based at least upon their dependency.

B. Claim Rejections Under 35 U.S.C. §102

On page 2 of the Final Office Action, claims 2, 3, 6, 8-10, 13 and 16 were rejected under 35 U.S.C. §102(e) as allegedly being anticipated by Marino et al. (U.S. Patent No. 6,259,862). Claims 6, 8 and 9 have been amended herein to depend from newly rewritten claim 11, as discussed above; accordingly the rejections over Marino now are moot with respect to these claims. With respect to at least claims 2, 3, 10 and 13, Applicants respectfully traverse these rejections.

1. Discussion of Marino

Marino is directed to a camera having a lighting system designed to provide red-eye reduction (Abstract). Marino's camera lighting system includes a multiple function light source that facilitates a number of different lighting functions based on visible radiation generated by the light source. In particular, the multiple function light source may generate radiation that not only provides for red-eye reduction, but also provides a point of visible light to assist in aiming the camera, provides a status light for a self-timer activation, and provides supplemental illumination that facilitates determining a distance between the camera and a photographed object (col. 2, lines 43-50). It is noteworthy that in each of the disclosed examples, Marino's multiple function light source is limited to facilitating a number of visible lighting-related functions.

As shown in Marino's Fig. 1, a front surface 24 of Marino's camera 20 includes an auxiliary light source 34 that provides supplemental visible light illumination into the scene, to facilitate one or more of the lighting functions discussed above (col. 4, lines 33-35). Also included on the camera's front surface is a light-sensing photocell 32. The photocell 32 is part of a ranging system to determine a distance between the camera and an object to be photographed, based on the supplemental illumination provided by the auxiliary light source 34 that is reflected by the object back to the photocell 32 (col. 4, lines 30-33; lines 35-37). In view of the foregoing, it may be readily appreciated in Marino that the auxiliary light source 34 and the photocell 32 clearly are two distinct, different devices that perform respectively different functions; namely, the light source 34 generates visible radiation and the photocell 32 detects radiation.

2. Applicants' Claims Distinguish over Marino

In contrast to Marino, Applicants' independent claim 2 is directed to a multifunctional device, comprising a platform and a lighting element disposed on the platform, wherein the lighting element has a lighting function and at least one non-lighting function. The device of claim 2 also comprises at least one processor for controlling the lighting element to provide the

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lighting function and the non-lighting function, wherein the processor generates a pulse-width-modulated signal to control the lighting function.

Marino does not disclose or suggest the device of Applicants' claim 2. In particular, Marino fails to disclose or suggest a lighting element that has a lighting function and at least one non-lighting function, as recited in claim 2.

The Final Office Action states on page 2 that Marino allegedly discloses "a multifunctional device and method thereof comprising a surface 24 readable as a platform, [and] a lighting element 34 disposed on the platform, the lighting element having a lighting function 34 and having at least one non-lighting function 32." Applicants respectfully disagree with this characterization of the Marino reference. In particular, the Office Action attempts to unfairly characterize Marino as disclosing a lighting element that performs both a lighting function and a non-lighting function. However, the Office Action fails to appreciate that Marino's reference characters 34 and 32 are not used to indicate two different functions performed by a single element; rather, the reference characters 34 and 32 are used to indicate *two different devices*, namely, a light source 34 and a photocell 32, that respectively perform a lighting function and a non-lighting function. Hence, Marino fails to disclose or suggest a lighting element that has a lighting function and at least one non-lighting function, as recited in claim 2.

For at least the foregoing reasons, claim 2 patentably distinguishes over Marino and is in condition for allowance. Therefore, the rejection of claim 2 under 35 U.S.C. §102(e) as allegedly being anticipated by Marino should be withdrawn.

Claims 3, 10, and 12 depend from claim 2, and accordingly are believed to be allowable based at least upon their dependency.

Applicants' claim 13 is directed to a method of providing multiple functions in a multifunctional device. The method of claim 13 comprises providing a platform, disposing a lighting element on the platform, the lighting element having a lighting function and having at least one non-lighting function, providing at least one processor for controlling the lighting element to provide the lighting function and the non-lighting function, and generating a pulse-width-modulated signal to control the lighting function. For reasons similar to those discussed above in connection with claim 2, claim 13 patentably distinguishes over Marino and is in

condition for allowance. Therefore, the rejection of claim 13 under 35 U.S.C. §102(e) as allegedly being anticipated by Marino should be withdrawn.

Claim 14 depends from claim 13, and accordingly is believed to be allowable based at least upon its dependency.

Claim 16, as amended, is directed to a method of providing multiple functions with a lighting device. The method of claim 16 comprises providing a platform, disposing a first element on the platform, the first element having a lighting function and a first non-lighting function, disposing a second element on the platform, the second element having a second non-lighting function, and providing a processor for controlling the first and second elements, wherein the processor generates a pulse-width-modulated signal to control the lighting function. For reasons similar to those discussed above in connection with claim 2, claim 16 patentably distinguishes over Marino and is in condition for allowance. Therefore, the rejection of claim 16 under 35 U.S.C. §102(e) as allegedly being anticipated by Marino should be withdrawn.

C. Newly Added Claims

New claims 21-57 have been added to further define Applicants' contribution to the art. Each of the new claims is respectfully believed to patentably distinguish over each of the references of record.

CONCLUSION

In view of the foregoing amendments and remarks, this application should now be in condition for allowance. A notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that this application is not in condition for allowance, the Examiner is requested to call the Applicants' representatives at the telephone number listed below to discuss any outstanding issues relating to the allowability of the application.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicants hereby request any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 23/2825.

Respectfully submitted,

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Version With Markings to Show Changes Made
IN THE CLAIMS

Claims 4-9, 11 and 16 have been amended as follows:

4. (Amended) [A device of claim 2,] A multifunctional device, comprising:
a platform,
a lighting element disposed on the platform, the lighting element having a lighting
function and having at least one non-lighting function, and
at least one processor for controlling the lighting element to provide the lighting function
and the non-lighting function, wherein the processor generates a pulse-width-modulated signal to
control the lighting function, and

wherein [the] a period of the pulse-width-modulated signal is controlled using a duty cycle based on logic of exclusive or.

5. (Amended) [A device of claim 2,] A multifunctional device, comprising:
a platform,
a lighting element disposed on the platform, the lighting element having a lighting
function and having at least one non-lighting function, and
at least one processor for controlling the lighting element to provide the lighting function
and the non-lighting function, wherein the processor generates a pulse-width-modulated signal to
control the lighting function, and

wherein [the] a duty cycle of the pulse-width-modulated signal is controlled to provide the non-lighting function without visible effect on the lighting function.

6. (Amended) [A] The device of claim [2] 11, wherein the second non-lighting
function positions the device.

7. (Amended) [A] The device of claim 6, further comprising a [second] third non-lighting function, wherein the [second] third non-lighting function comprises a sensing function and wherein positioning the device is in response to a sensed condition sensed by the sensing function.

8. (Amended) [A] The device of claim [2] 11, wherein the second non-lighting function is a sensing function.

9. (Amended) [A] The device of claim 8, wherein the sensing function is provided by an element selected from the group consisting of a sensor, an IR detector, a camera, a motion detector, a proximity detector, a photovoltaic sensor, a photoconductive sensor, a photodiode, a phototransistor, a photoemissive sensor, a photoelectromagnetic sensor, a microwave receiver, a UV sensor, a magnetic sensor, a magnetoresistive sensor, an ozone sensor, a carbon monoxide sensor, a smoke detector, a position sensor, a thermocouple, a thermistor, a radiation pyrometer, a radiation thermometer, a fiber optic temperature sensor, a semiconductor temperature sensor, and a resistance temperature detector.

11. (Amended) [A device of claim 2,] A multifunctional device, comprising:
a platform,
a lighting element disposed on the platform, the lighting element having a lighting
function and having at least one non-lighting function, and
at least one processor for controlling the lighting element to provide the lighting function
and the non-lighting function, wherein the processor generates a pulse-width-modulated signal to
control the lighting function, and
the [lighting element] device further having at least a second non-lighting function selected from the group consisting of a communication function, a positioning function, a sensing function, an actuation function, an emitting function and a networking function.

16. (Amended) A method of providing multiple functions with a lighting device, comprising:

- providing a platform,
- disposing a first element on the platform, the first element having a lighting function and a first non-lighting function,
- disposing a second element on the platform, the second element having a second non-lighting function, and
- providing a processor for controlling the first and second elements, wherein the processor generates a pulse-width-modulated signal to control the lighting function.